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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,209	09/14/2004	Artur Lachowicz	040452	8526

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EXAMINER	
BERMAN, SUSAN W	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/507,209	LACHOWICZ ET AL.	
	Examiner	Art Unit	
	Susan W. Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☒ Claim(s) *6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

Claim 6 is objected to because of the following informalities: The recitation "a novel compound" in claim 6 should be replaced with "a compound". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 and 7-12 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 1 and 2, it is not clear what is meant by the last four lines. What is meant by "weight percentage of a chemical structure element"... "based on the total molecular weight of the compound"..."is within the range of 17% to 54% by mass" ?. What is meant by element "represented by the following formula (2) ... which is expressed in formula (1)? Is the compound of formula (2) one wherein all the R groups in formula (1) are hydrogen or methyl groups? Molecular weight is the weight of a mole of molecules of a compound. Does applicant intend to set forth that the photoinitiator consists essentially of a compound of formula (1) and a compound of formula (2) wherein the mass percentage of compound of formula (2) is from 17% to 54% by mass of the total mass of the two compounds? If so, this should be clearly stated.

Claim 4 should clearly recite that it is the compound of formula (1) in claim 1 that has the structure of formula (5). It is not clear how "the compound has at least one chemical structure element..." of the formula set forth. Is this structure with two unfilled bonds part of an oligomer or polymer or do the bonds indicate ends having hydrogen or methyl groups?

Claim 5 should clearly recite that it is the compound of formula (3) in claim 2 that has the structure of formula (6). Is this structure with two unfilled bonds part of an oligomer or polymer or do the bonds indicate ends having hydrogen or methyl groups?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,924,324. US '324 discloses compositions comprising the same photoinitiator compounds as are set forth in the instant claims. See claims 2-4. With respect to claims 6 and 13, US '324 discloses compounds that would provide the R_{11} core and beta-diketone groups as shown in the brackets of formula (7). See the examples wherein TMPTE is reacted with acetoacetate compounds and see structural elements A-3, A-5, A-8 in columns 3-4 for example.

With respect to claims 1-5, It would have been obvious to one skilled in the art to employ the beta-diketone or beta-ketoester compounds set forth in the claims of '324 as a photoinitiator system, as set forth in the instant claims, because the claims are drawn to a photocurable composition. With respect to claims 1-12 and 14, It would have been obvious to one skilled in the art to substitute other kinds of ethylenically unsaturated photocurable compounds for the acryloyl functional compounds set forth in the claims of '324. One of ordinary skill in the art would have been motivated by a reasonable expectation of successfully providing a useful photoinitiator and a photocurable composition.

The applied reference has a common assignee and inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5, 7-12 and 14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,924,324. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following

reasons. The claims of '324 set forth compositions comprising the same photoinitiator compounds as are set forth in the instant claims. See claims 2-4. With respect to claims 1-5, It would have been obvious to one skilled in the art to employ the beta-diketone or beta-ketoester compounds set forth in the claims of '324 as a photoinitiator system, as set forth in the instant claims, because the claims are drawn to a photocurable composition. With respect to claims 1-12 and 14, It would have been obvious to one skilled in the art to substitute other kinds of ethylenically unsaturated photocurable compounds for the acryloyl functional compounds set forth in the claims of '324. One of ordinary skill in the art would have been motivated by a reasonable expectation of successfully providing a useful photoinitiator and a photocurable composition.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Heap et al (3,974,052) disclose a photopolymerizable composition comprising ethylenically unsaturated material and beta-diketone photosensitizers of the two formulas shown in the Abstract. Heap et al disclose beta-diketone photosensitizers containing electron attracting groups –OR, -OH or –SR. No compounds corresponding to applicant's formula (2) are disclosed.

Cordes, III (4,054,721) discloses 2-alkoxy-1,3-diphenyl-1,3-propanedione photosensitizers of the structural formula set forth in the Abstract. The difference is that applicant does not teach "H" for R_1 or R_2.

GB 2 335 424 discloses acetylacetoxy compounds structurally similar to compounds of instant formula (3) and formula (6). The major difference is that the compounds of GB '424 contain an acryloxy group while applicant's compounds contain an aliphatic hydrocarbon group or an alkyeneoxy group as R_5.

Eyer et al (5,144,057) disclose a process for production of 3-oxocarboxylix acid esters. An intermediate 2-acylacetoacetic acid ester of formula (4) is taught in which the acetyl group is cleaved to produce the 3-oxocarboxylix acid ester (column 3, lines 1-22).

Schoer (6,486,345) discloses 6,6-dialkoxy-5-hydroxy-3-oxohexanoic acid esters of formula I (column 1).

Felder et al (4,088,554) disclose esters of aromatic α,β-dioxocarboxylic acids of the formula I in column 1, line 55, to column 2, line 32. The compounds contain alkoxy groups instead of the groups 1, 2 or 3 set forth for R_1 and R_2 in applicant's formula (3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Berman

SB
12/4/2005

Susan W Berman
Primary Examiner
Art Unit 1711